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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,640	01/10/2002	Tetsuo Yamanaka	217822US2	6909

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ALEXANDRIA, VA 22314

EXAMINER

LEE, SUSAN SHUK YIN

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,640

Applicant(s)

YAMANAKA ET AL.

Examiner

Susan S. Lee

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 44-46 and 48 is/are allowed.
- 6) ☒ Claim(s) 8, 12-14, 18-20, 24-26, 30-32, 36-38, 42, 43, 47 is/are rejected.
- 7) ☒ Claim(s) 9-11, 15-17, 21-23, 27-29, 33-35 and 39-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Upon reconsideration of the claims, the previous allowance of claims 8-43 and 47 is hereby withdrawn in view of the newly found reference to Murayama et al. (4,903,067).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 47 is rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (Japan, 208).

Sato et al. discloses a color image forming device with forming plural pairs of toner marks (K_{11} and K_{12}), (K_{21} and K_{22}), (K_{31} and K_{32}) consisting of two toner marks of the same color and the same shape onto belt 14 that reads on the instant invention's transferring member. The pairs of toner marks of the same color are formed at an interval L on the photoreceptor which is half of the circumferential of the photoreceptor, then transferred onto the belt at intervals L'. Detecting devices 16, 18 are used to sense the marks. When the interval L' is different from interval L, then a fluctuation of the positional deviation of each color is detected and averaged. This reads on to step of calculating means values of displacement amounts of the same color marks in different mark sets. The colors of each of the photoreceptor 1C, 1Y, 1M, and 1K, are cyan, yellow, magenta, and black. This is inherent from Fig. 2. Element 8 of Fig. 2 is the

laser assembly which reads on the instant invention's optical writing mechanism. Note abstract. Fig. 1 shows a number of different color marks such as K – black, C – cyan, M – magenta, and Y – yellow arranged in a line. This reads on the “predetermined number of different color marks is four”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 12-14, 18-20, 24-26, 30-32, 36-38, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (Japan, 208) in view of Murayama et al. (4,903,067).

Sato et al., as discussed above, differs from the instant invention by not disclosing an A/D converter configured to convert a signal output from the detector into detection data; a controller for controlling detected data to calculate positions of marks; and a storing means for storing the detection data.

Murayama et al. discloses a CPU 361 having a ROM and a RAM and integrally controls the registration mark positional deviation correcting processes and the drive control signal outputting processes necessary for image formation on the basis of control programs stored in the ROM; and a positional deviation detecting unit 362a having a mark detector 15. The detecting unit 362a optically receives each of the

registration mark images of the conveying belt 6. The detecting unit 362a receives the reflected light of the light irradiated from the lamp 17 to the conveying belt 6 through a filter 363a. Thus, the detecting unit 362a outputs a positional deviation detection image analog signal to an amplifier 366a. A low pass filter 367a eliminates the high frequency component included in the right positional deviation detection image analog signal which is output from the amplifier 366a. An A/D converter 368a A/D converts the positional deviation image analog signal to eight bits. An image data memory unit comprises image data memories 369Ca, 369Ma, 369Ya, and 369Bka. The memory unit 369a individually stores the image data corresponding to the positional deviation detection images for cyan, magenta, yellow, and black. Note column 29, line 60 – column 30, line 26.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Sato et al. with that of Murayama et al. in order to obtain a more accurate calculation of the displacement amounts and stored data in memory for later calculations.

Allowable Subject Matter

Claims 9-11, 15-17, 21-23, 27-29, 33-35, 39-35, and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Claims 1-7, 44-46, and 48 are allowed over the prior art of record.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ando et al. disclose art in registration of color images.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 703-308-2138. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 703-308-1373. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Susan S. Lee
Primary Examiner
Art Unit 2852

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